



July 15, 2016

Utah Bureau of Land Management

*Via email to* [blm\\_ut\\_vernal\\_comments@blm.gov](mailto:blm_ut_vernal_comments@blm.gov)

**Comments of WildEarth Guardians on the Environmental Assessment for the BLM Utah November 2016 Oil and Gas Lease Sale**

To Whom It May Concern,

The following are the comments of WildEarth Guardians on the Environmental Assessment ("EA") for the Bureau of Land Management ("BLM") Montana October 2016 oil and gas lease sale. Please provide notice to me at [tream@wildearthguardians.org](mailto:tream@wildearthguardians.org) when further action, including but not limited to issuance of a finding of no significant impact, is taken on this lease sale. Please also provide notice when any period for a formal protest or pre-decisional objection is set or changed. Finally, if BLM ever analyzes site-specific climate emissions of an application for permit to drill, please inform me.

For many years, the Bureau of Land Management has prioritized coal, oil, and gas leasing and related development over other uses of public land, such as protecting wildlife, watersheds, and public recreation. The error of this approach is increasingly obvious. In these documents and throughout the agency's work, BLM fails to recognize that already existing federal coal, oil, and gas leases, if fully developed, would result in climate emissions that far exceed a safe and livable global temperature rise and would render our oceans too acidic for much existing marine life. BLM is choosing an unsafe climate for us and for future generations.

After years of waiting, the Secretary of the Interior has finally taken initial action with respect to the coal program. The Secretary, following on the heels of the President's 2016 State of the Union, noted the tremendous impacts to taxpayers and the planet stemming from its coal leasing program. She ordered a programmatic environmental impact statement of the coal program and shut down most new leasing until that review is complete. The exact same solution is needed for the public lands oil and gas program.

Instead, with every new set of oil and gas leases, like the ones proposed here, BLM further breaks the global carbon budget for a livable climate, signals that other countries can behave just as irresponsibly, and increases the intensity of current and future catastrophic climate impacts. *See* The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Ecoshift (August 2015) Ex. 1.

It should be noted: an end to new leasing would leave massive public lands acreage in the hands of oil and gas companies. The Obama Administration has leased more than 10 million acres of public land (and far more in our oceans) to oil and gas companies. Approximately 60% of this land is not producing any oil or gas. In fact, using the government's own projections for public lands and oceans oil and gas production, even with an end to leasing today, the backlog of existing leases would allow several decades of continual oil and gas production. Ex. 1A - Over-Leased: How Production Horizons of Already Leased Fossil Fuels Outlast Global Carbon Budgets, EcoShift (2016) at 1.

As detailed below, the problems with this proposed lease sale and its compliance with the National Environmental Policy Act ("NEPA"), including failure to adequately assess impacts to sage grouse, are such that BLM should adopt a no action alternative. In any case, it is clear that this NEPA analysis is inadequate to support project approval without supplemental analysis.

### **BLM Again Fails to Follow the Council on Environmental Quality Guidance on Climate Change and NEPA**

Well before this document was completed, a December 2014 release of the Council on Environmental Quality's ("CEQ") "Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts" ("CEQ Guidance") was provided to BLM. Ex. 2. Despite the intervening time, BLM continues to ignore most of the requirements set forth in the guidance. That such behavior is widespread throughout BLM's oil and gas program suggests a failure of leadership at the highest levels of the Department and the Administration.

#### A programmatic EIS is necessary

Put simply, BLM is failing to describe or to analyze climate impacts from its oil and gas program and this document is no exception. The repeated pattern and practice of such failure suggests that only a programmatic analysis at the national level can address this shortcoming. In fact, a programmatic analysis is exactly what the CEQ Guidance calls for. The Guidance suggests that for "long-range energy" actions, "it would be useful and efficient to provide an aggregate analysis of [greenhouse gas] emissions or climate change effects in a programmatic analysis and then incorporate by reference that analysis into future NEPA review." CEQ Guidance at 29. The lack of climate analysis of this long-range energy action demonstrates that this office, along with other state offices as demonstrated in other recent oil and gas leasing EAs, is incapable or unwilling to undertake adequate review of greenhouse gas ("GHG") emissions or climate change effects. This is exactly why the CEQ Guidance is correct in calling for programmatic analysis of climate emissions and effects for programs like the BLM oil and gas leasing program.<sup>1</sup> In fact, when listing

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<sup>1</sup> One purpose of the CEQ Guidance is "to encourage consistency" among and within Federal agencies analyzing climate impacts. CEQ Guidance at 1. As a result of ignoring the CEQ Guidance, BLM has failed to achieve that consistency internally or in coordination with other agencies. Programmatic analysis could help cure this deficiency.

examples of “site-specific actions that can benefit from a programmatic NEPA review,” authorizing leases for oil and gas drilling is specifically mentioned. CEQ Guidance at 30. Thus, the CEQ Guidance creates an expectation that BLM would undertake a programmatic EIS of its oil and gas program, which it has thus far failed to do.

BLM recently stated the following:

CEQ recommends that an agency select the appropriate level of action for NEPA review at which to assess the effects of GHG emissions and climate change, either at a broad programmatic or landscape-scale level or at a project-specific level, and that the agency set forth a reasoned explanation for its approach. A specific example CEQ cited of a project-specific action that can benefit from a programmatic NEPA review is authorizing leases for oil and gas drilling. Given the aggregate nature of GHG contributions to global climate change, and the aggregate nature of climate change impacts to area-specific impacts analyzed in a field office NEPA document, it is readily apparent that the type of analysis suggested in the comments is more appropriate at a programmatic level, preferably at the regional or larger scale.

BLM Utah Environmental Assessment for the May 2016 Oil and Gas Lease Sale (DOI-BLM-UT-C020-2016-0002-EA) at 24.

The EA in question here seemingly calls for the same solution:

Given the aggregate nature of GHG contributions to global climate change, and the aggregate nature of climate change impacts to area-specific impacts analyzed in a field office NEPA document, analysis at this scale is not appropriate and would not provide meaningful information to inform the decision.

EA at 51.

It is a wonderful advancement in BLM’s thinking to acknowledge the CEQ Guidance and agree with us and CEQ that some kind of programmatic analysis is necessary to take a “hard look” at climate emissions and impacts as required by NEPA. However, merely acknowledging this lack of analysis is not a substitute for it. In fact, it is an admission that the hard look required by NEPA has not yet been taken. Such a statement is an admission that BLM’s current analysis is not legally sufficient to support project approval. We agree that it is necessary for proper implementation of NEPA for BLM State Offices to have a PEIS to tier to. Absent one, there are only two choices. Perform an equivalent analysis here or deny project approval. It would be reckless and illegal to do otherwise. BLM continues to choose the course of recklessness, both with regard to our climate and to the law.

In other words, BLM misconstrues the CEQ analysis to imply that if climate change analysis cannot be done at the field office level, it need not be done at all. This is a misreading. Site-specific analysis is still required. Where an agency has chosen to ignore programmatic analysis in favor of site-specific climate analysis, it is required to “set forth a reasoned explanation” for that failure. CEQ Guidance at 4. Absent programmatic analysis, BLM is still

required to adequately analyze climate impacts and to “apply fundamental NEPA principles to the analysis of climate change through assessing GHG emissions” as per the Guidance and the law itself. CEQ Guidance at 30. BLM has not done so in the relevant Resource Management Plans or in the NEPA documents under review. The failure to apply fundamental NEPA principles in analyzing climate emissions and effects in these NEPA documents or in tiered documents are obvious and unfortunate.

BLM does not have the discretion to ignore existing information and tools and simply wave away emissions as insignificant

The touchstone of any NEPA analysis is to take a hard look at impacts and provide useful information to decision makers and the public; the analysis of climate impacts is no different. CEQ Guidance at 2. Such analysis does not require the development of new information or tools for analysis, but does require that existing information and tools are applied appropriately. CEQ Guidance at 4. (Examples include but are not limited to air pollution models, reasonably foreseeable development scenarios, and emissions factors for various systems.) BLM should heed CEQ’s advice that providing climate change analysis will not only satisfy the critically important mandates of NEPA, but will also reduce the risk of litigation. CEQ Guidance at 2.

It is true that agencies have discretion in how to apply available information and tools, but the depth of this discretion is a function of the agency’s “expertise and experience” with climate change and its impacts. CEQ Guidance at 5. It is clear that such expertise is largely absent in state BLM offices, including this office. Given this lack of experience and expertise at the state office, agency discretion to ignore the CEQ Guidance is at its low ebb. This is even more apparent at the district or field levels, again suggesting the need for national programmatic analysis of the BLM oil and gas leasing program. To address its lack of expertise and experience with climate analysis, it is not unusual, including in these documents, to find BLM offices relying on outdated and inapplicable boilerplate text to cover the gaps in analysis. “It is essential, however, that Federal agencies not rely on boilerplate text to avoid meaningful analysis, including consideration of alternatives or mitigation.” CEQ Guidance at 5-6.

Unfortunately, that is exactly what has happened yet again in this EA. Despite receiving comments on this exact point on numerous occasions, BLM continues to cite to outdated climate science on even the simplest of issues. Somehow, BLM Utah’s top climate specialist<sup>2</sup>, citing to NOAA, has written, “The 8 warmest years on record (since 1850) have all occurred since 1998, with the warmest being 2005.” EA at 19. It takes less than a minute to search the Internet and discover that NOAA believes that the top four warmest years on record are 2015, 2014, 2010, and 2013. <https://www.ncdc.noaa.gov/sotc/global/201513>. Anyone who has paid the least bit of attention to the news knows that recent years have been the warmest on record. Thus, there are two explanations for getting this fundamental

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<sup>2</sup> Stephanie Howard is listed as being responsible for air quality analysis. Her title is Planning and Environmental Coordinator. EA at 63. It would be interesting for UT BLM to review her qualifications to analyze climate emissions and impacts since such analysis is again absent in this NEPA document.

climate science fact wrong. BLM's climate specialist is trying to deceive the public and the decision maker with false information to downplay the seriousness of climate change or BLM's climate specialist hasn't bothered to update this section of NEPA boilerplate for at least six years. Both are shameful. And yet, no one who reads federal oil and gas program EAs regularly will be surprised to find the same boilerplate next quarter.

Still there is a clue that this section has been updated in recent years. BLM states "the past 18 years have had negligible increase in maximum temperature . . ." EA at 19. Imagining 1998 to be the hottest year on record, BLM has been updating the imagined string of years that warming has not increased to 18 from 1998. But while it has "updated" its fallacious statement, it has refused to acknowledge five years hotter than 1998 since that time. This is the exact same kind of deception that has been purveyed by the oil industry for years. This wanton ignorance of climate science and this attempt to fool the public and the decision maker alone render this EA inadequate.

Finally, there is one other statement in the EA regarding climate policy that cannot go unchallenged. BLM claims that carbon capture and storage will become available in the next two decades, "drastically reducing emissions." No evidence of this statement is or could be given. No serious analyst believes this is true. The massive failure and cancellation of CCS projects across the U.S. is clear evidence this is another lie from BLM designed to downplay the significance of climate change.

#### Actual emissions, including from oil and gas use, must be analyzed for lease sales

The core of any climate change NEPA analysis is an actual analysis of emissions. It should be noted, all estimates of future project emissions are speculative to some degree, but nonetheless required by NEPA whenever reasonably foreseeable. To estimate emissions here would not be difficult and has been and is being done by other BLM offices. BLM has all the information necessary to do such an analysis.

This lack of analysis might be because BLM thinks that fossil fuel leasing is a special example that absolves it of this requirement to estimate emissions. CEQ, however, makes it a specific point to state that such estimates are required when leasing fossil fuels. For example, the "development of a coal resource" requires an estimate of resulting emissions. CEQ Guidance at 12. Moreover, not just emissions, but the long-term climate effects of such an action must be analyzed to fulfill NEPA's mandate. CEQ Guidance at 12.

Please note, the Guidance is applicable to site-specific actions, like an individual lease, but also to "Federal land and resource management decisions," like resource management plans. CEQ guidance at 8. Thus, GHG emissions and climate impacts should be analyzed in a Resource Management Plan, which was not done here, at the oil and gas leasing stage, which was not done here, and, at the application for permit to drill stage, which is generally not being done by BLM either. Put simply, NEPA analysis is required for all proposed Federal actions, 40 CFR § 1508.18, and the analysis of climate impacts is no different, CEQ Guidance at 8.

Emissions estimates are not limited only to the climate pollution that results from construction and production of fossil fuel projects. The “reasonably foreseeable effects” on our climate that must be analyzed under NEPA include those that come from “using the resource.” CEQ guidance at 12. Downstream emissions must be accounted for in the present NEPA analysis. CEQ Guidance at 11. Thus, the analysis of emissions from the burning of oil and gas must be included in oil and gas leasing NEPA analysis, which was not done here.

There is a presumption that climate emissions are quantitatively analyzed; if BLM chooses to do otherwise, it must “explain its basis for doing so.” CEQ Guidance at 16. One basis for providing no more than a qualitative analysis is that the tools and information for producing quantitative analysis are not available. CEQ Guidance at 15. If, however, such tools and information are available, BLM “should conduct and disclose quantitative estimates of GHG emissions.” CEQ Guidance at 15. Again, such emissions estimates must include those from fossil fuel combustion. CEQ Guidance at 15.

It is clear that BLM has the tools and information to estimate project emissions. For years, BLM state offices have estimated fossil fuel production from lease sales so that they could tout the economic impacts of the proposed projects. BLM has shown it is capable of going one step further and converting production estimates into emissions estimates. *See, e.g.*, Ex. 3 – Utah BLM May 2015 Oil and Gas Lease Sale Environmental Assessment (December 2014) at 30-31. The U.S. Forest Service is also capable of estimating emissions from a BLM lease sale. *See, e.g.*, Ex. 4 – Pawnee National Grassland Oil and Gas Leasing Analysis Draft Environmental Impact Statement (August 2014) at 277-87 and Ex. 4A -- Previously Issued Oil and Gas Leases in the White River National Forest Draft Environmental Impact Statement, Bureau of Land Management (November 2015). BLM Miles City Field Office also created aggregated estimates of emissions from years of foreseeable projects. Ex. 4B -- Miles City Proposed Resource Management Plan and Final Environmental Impact Statement (2015) at Chapter 4. Finally, the Four Rivers Field Office of Idaho utilized an emission calculator developed by air quality specialists at the BLM National Operations Center in Denver and a 2013 report prepared for BLM by Kleinfelder to estimate likely greenhouse gases that would result from leasing five parcels. *See* Ex. 4C -- “Little Willow Creek Protective Oil and Gas Leasing,” EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) and Ex. 4D -- Kleinfelder, “Air Emissions Inventory Estimates for a Representative Oil and Gas Well in the Western United States,” report prepared for Bureau of Land Management (March 25, 2013).

Once BLM has an estimate of possible fossil fuels produced from a project, it is quite simple to calculate the climate emissions that will result from the combustion of those fuels. Likewise, BLM has the information to estimate construction and production emissions and can easily apply the existing and widely known scientific literature to estimate methane releases. If uncertainty must be handled by presenting a range of possible estimates, that is an acceptable practice under NEPA.

Please note, although the CEQ Guidance suggests agencies’ should apply a rule of reason when determining the level of effort expended in analyzing GHG emissions, this is not a justification for avoiding a quantitative analysis for the project in question. First, as noted

above, “[i]f tools or methodologies are available, . . . agencies should conduct and disclose quantitative emissions.” CEQ Guidance at 15. Second, the rule of reason means “reasonably proportionate to the importance of climate change related considerations to the agency action being evaluated.” CEQ Guidance at 14. Climate emissions from the BLM oil and gas leasing program have never been adequately evaluated at the programmatic, resource management plan, leasing, or applications for permit to drill levels. Onshore fossil fuels other than coal are currently responsible for a whopping 19% of federal leasing emissions. Ex. 5 - *Cutting Greenhouse Gas From Fossil-Fuel Extraction on Federal Lands and Waters* (CAP Report), Center for American Progress (March 19, 2015) at 4. That represents approximately 5% of all energy-related emissions in the U.S. See CAP Report at 1 noting total federal lands and waters energy-related emissions at 24% and multiplying by 19%. This is a huge and nationally important volume of emissions that has *never been analyzed under NEPA in any fashion*. Until BLM completes a quantitative analysis of emissions of its oil and gas leasing program at the programmatic level, there can be no doubt that emissions from individual federal lease sales warrant a quantitative estimate.

Finally, the rule of reason still demands that BLM “ensure the professional and scientific integrity of [its] decisions and analysis.” CEQ Guidance at 14, citing 40 CFR § 1502.24. Often BLM offices still to this day cannot admit of basic climate science conclusions. Calling climate science formative to dismiss the need for analysis, or claiming that the standard for such analysis is “certainty” lacks the required level of integrity.

For these reasons, the CEQ Guidance makes clear that the rule of reason provides no rationale for avoiding a quantitative estimate of emissions for the project in question. The EA in question is legally insufficient.

Estimates of climate emissions need to be put in context and the social cost of carbon is an appropriate tool for doing so

An estimate of emissions presented, without any context, means little to decision makers or the public. A ton or a gigaton of carbon dioxide equivalent (“CO<sub>2</sub>e”) has little meaning to all but those most deeply steeped in climate science. Thankfully, a simple tool that contextualizes emissions by translating tons of carbon into estimates of the costs to society of emitting that carbon is readily available. This social cost of carbon (“SCC”) evaluation tool is discussed in more depth in later sections.

BLM has suggested in the past various reasons why the SCC is not an appropriate tool for contextualizing climate emissions. The CEQ Guidance recognizes that SCC estimates “vary over time, are associated with different discount rates and risks, and are intended to be updated as scientific and economic understanding improves.” CEQ Guidance at 16. These shortcomings, however, do not disqualify the methodology from use under NEPA or otherwise render it useless. *Id.* The CEQ Guidance discusses SCC solely in terms of cost-benefit analyses. *Id.* This discussion does not, however, in any way suggest that the SCC is an inappropriate tool for other aspects of NEPA analysis.

These comments do not call for a cost-benefit analysis. Instead, we merely contend that once emissions estimates for a project exist, it is a simple calculation to cast those emissions estimates in terms of the costs to society from resulting climate change. Failure to do so is a failure to provide decision makers and the public with a critical context for understanding the importance of a particular amount of climate emissions.

In summary, the CEQ Guidance provides a meaningful roadmap for a BLM office that is clearly struggling with its ability to present meaningful analysis of the climate impacts of its fossil fuel projects. Unfortunately, BLM has failed to employ nearly every relevant point presented by CEQ. This alone renders the EA inadequate to meet the requirements of NEPA.

### **BLM Fails to Analyze Climate Emissions or Their Impacts**

A complete estimate and analysis of climate emissions and impacts from this project is required, but missing. NEPA has a mandate to assess impacts at the earliest opportunity. Having already ignored such impacts by failing to analyze them in a programmatic analysis or in the analysis for RMPs, BLM cannot claim it will undertake analysis at the last possible moment, during an application for permit to drill analysis, rather than the earliest opportunity. “We will do it later” doesn’t cut it under NEPA, even the less so when the claim of later analysis is not true.

In this EA, BLM makes clear that it understands its legal requirement and analytical capacity to estimate emissions. First, BLM notes that it believes that once it leases land through the action proposed here, the lessee has rights to extract and dispose of oil and gas that BLM cannot take away. EA at 3. BLM concedes that leasing is an irretrievable commitment of resources. EA at 9. Thus, later analysis will be unable to affect impacts, including indirect and cumulative impacts that result from the decision at hand. BLM admits those impacts could result from the act of leasing. EA at 9.

BLM understands that its project may result in increased combustion of fossil fuels. EA at 19. BLM understands that there will be “likely indirect impacts” from GHGs produced by this project. EA at 36. BLM even acknowledges that while projects like this one result in relatively “small amounts of GHG emissions, they do contribute to the regional, national, and global pool” of GHGs. EA at 20. BLM even acknowledges that it has a simple calculator for estimating at least GHG emissions from drilling and production activities. EA at 37.

From these facts, one might conclude that BLM would then use its analytical capacity to fulfill its legal requirements and provide the public and the decision maker with an estimate of the indirect effects of project approval and the resulting irretrievable commitment of resources. Sadly, just the opposite has happened. The excuses given are as empty as they are numerous.

First, BLM concludes that emissions (ignoring downstream emissions, the largest category) would be 3,497 tons per year per well and since that is less than a 25,000 ton per year CEQ benchmark, it can safely skip further analysis. EA at 37. For starters, that is not what the



CEQ guidance says, but in any case, BLM has failed to estimate how many wells might operate on the 12,344 acres proposed for leasing. Eight wells or more, far fewer than would be expected from such acreage, leads to annual emissions (again, ignoring downstream emissions) that exceed the benchmark. By BLM's own logic, an application of the facts make clear a quantitative assessment of emissions is required.

Second, BLM claims that it is not reasonable to calculate project emissions because they are too small of a fraction of global emissions. EA at 50. This logic leads to the conclusion that no well should ever be assessed for its impacts on our climate. But even more to the point, this is in direct opposition to the CEQ guidance and ignores BLM's own statements noting that even small levels of emissions still contribute to the global pool of emissions. One also has to question how BLM knows that emissions are small if it never calculated them. And if it did make an estimate, why has that information not been presented in the NEPA document?

Third, BLM claims it is not possible to calculate project emissions because they are too small. EA at 50. This makes no sense whatsoever. Again, how does BLM know the emissions are too small to calculate if it did not estimate them? BLM also makes the absurd claim that emissions of the oil and gas produced as a result of this project is not substantially different from not drilling a single well, i.e., the no action alternative. The result of the logic is again that no well is significant and that it doesn't matter how many wells are drilled – emissions will always be the same.

Finally, BLM claims, as it has in this state and others for more than a year now, that climate change will be analyzed and presented to the public more thoroughly when site-specific analysis is performed when analyzing applications for permits to drill. EA at 9. This claim has proven false and remains untrue for the Vernal Filed Office at this time. Here are several examples.

BLM Utah is now using the ePlanning system to provide the public with NEPA documents. On July 14, 2016, a search was performed for all VFO Fluid Minerals planning documents. DOI-BLM-UT-G010-2016-0055-EA is said to be an analysis of five proposed wells. The project status is listed as "Completed." The links to "Documents" leads to the following statement: "Document preparation underway. No documents are available at this time. However, at a minimum a signed NEPA document will be uploaded as soon as it is available."

It cannot be simultaneously true that NEPA work has been completed and no signed document is yet available. From the public perspective, an inability to access a NEPA document is no different than if a document had never been prepared. I assume without being certain, based on past experience, that if a document has been completed, it does not include adequate climate change analysis. If I am incorrect, or even if I am not, I request that the above-listed NEPA document be provided to me immediately and the record for comments on the instant EA be left open until I have an opportunity to comment on the above-listed EA.

The exact same situation pertains to DOI-BLM-UT-G010-2016-0026-EA. The project is listed as completed and no documents are available. Thus, no adequate climate change analysis is available to the public as NEPA demands. Please provide this document to me and keep the November lease sale EA comment period open until I have a chance to review it and utilize it for comments on this sale.

For DOI-BLM-UT-G010-2016-0025-EA, which is also listed as completed, the only documents that appear are maps. The “Documents” section contains no NEPA analysis. Please provide that document and time to comment on the November lease sale.

One has to go back to December 2015 to find a NEPA document for a site-specific analysis of applications for permit to drill that is actually available to the public. DOI-BLM-UT-G010-2016-0001-EA analyzes 12 proposed wells. Ex. 5A – Finding of No Significant Impact, Decision Record, Environmental Assessment DOI-BLM-UT-G010-2016-0001-EA. The analysis of climate change effectively says no more than climate science is speculative and EPA does not require GHG controls. Without estimating emissions, the EA finds that they are “negligible.” DOI-BLM-UT-G010-2016-0001-EA at 30.

DOI-BLM-UT-G010-2015-0167-EA analyzes a single well and the extent of BLM’s promised “site-specific” analysis is the exact same repetition of the exact same paragraph as provided in the previously described EA. EX. 5B – Environmental Assessment DOI-BLM-UT-G010-20016-0001-EA at 14.

In summary, the EA fails to analyze climate emissions and impacts. The tiered documents fail to analyze climate emissions and impacts. Promised future analysis of site-specific emissions and impacts is not happening. Even if later NEPA analysis of climate emissions and impacts during the APD phase were undertaken, it would be inadequate as a result of the intentional delay. Nonetheless, later analysis during the APD phase is continuing to completely ignore climate emissions and impacts. Thus, the EA fails legally under NEPA and morally under any test of good government or concern for future generations.

### **The Social Cost of Carbon Has Been Ignored**

The high costs to society from the leasing and subsequent burning of public lands fossil fuels must be properly analyzed and that analysis presented to the public and agency decision makers. Historically, BLM has ignored the costs of fossil fuel leasing on public lands, especially the costs to society that result from global warming. Proper consideration of these social costs of carbon is simply good governance and good stewardship of public resources, and such consideration is legally required.

***Global warming is responsible for extreme costs to society already, and it will only get worse in the future.***

A recent consensus report, joined by more 190 countries, makes the basic science on global warming crystal clear. Global warming is unequivocal: since the 1950s the atmosphere and oceans have warmed, snow and ice have diminished, and seas have risen. Ex. 6, Climate

Change 2013 – The Physical Science Basis - Summary for Policymakers, United Nations Intergovernmental Panel on Climate Change (2013) (“AR5 summary”) at 4. There is little doubt that pollution from human activities is the cause of this warming. *Id.* at 17. The U.S. government’s own more recent report concludes that global warming is now affecting our country in far-reaching ways. Ex. 7, National Climate Assessment 2014 – Overview (“National Climate Assessment”). Climate pollution has warmed the U.S. almost 2°F, mostly since 1970, with another 2°F to 4°F expected in the next few decades. *Id.* Much greater warming in future decades is also possible, possibly up to an increase of 10°F above current temperatures by the end of the century. *Id.*

These are not the estimates of “environmentalists.” This is the scientific consensus accepted both in the U.S. and around the world.

The burning of coal, oil, and gas is the principle source of the largest contributor to global warming, carbon dioxide. *Id.*; see also AR5 summary at 13. At this time, approximately 25% of the carbon dioxide from fossil fuels produced in the U.S. comes from public lands leases. Ex. 8, Greenhouse Gas Emissions from Fossil Energy Extracted from Federal Lands and Waters, Stratus Consulting (February 1, 2012) at 15; see also, Ex. 9, Sales of Fossil Fuels Produced from Federal and Indian Lands – FY 2003 through FY 2014, U.S. Energy Information Administration (June 2015) at 2. Fossil fuels extracted from public lands release more than one and one-half billion metric tons of carbon dioxide equivalent per year. *Id.* at 12. That is the equivalent of more than 31 million passenger cars’ annual climate pollution, just from producing and burning fossil fuels from our public lands alone. Greenhouse Gas Equivalencies Calculator, U.S. Environmental Protection Agency at <http://www.epa.gov/cleanenergy/energy-resources/calculator.html> (last checked July, 9 2015).

BLM manages federal mineral rights, including the leasing and approval of extraction of public lands fossil fuels, on all federal lands. Therefore, BLM decision makers play a critical role in determining how much more climate pollution the U.S. will emit to the atmosphere, the extent that that pollution will exacerbate global warming, and the extent that society and future generations will have to bear the myriad related social costs of those decisions.

Global warming is exacting costs on society in numerous ways. Agricultural productivity, including crops, livestock, and fisheries have been negatively impacted by global warming. National Climate Assessment – Overview. This has resulted from extreme weather events, changes in temperature and precipitation, and increasing pressure from pests and pathogens. *Id.* Both water quality and water quantity are being affected by global warming. *Id.* The degradation has resulted from changes in snowpack, extreme weather events, coastal flooding affecting aquifers, and from changes in temperature and precipitation. *Id.* Heat-related deaths and illnesses have grown and are growing. *Id.* Impacts to forest resources from increased forest fires and the resulting impacts to air quality put additional costs on society. *Id.* A wide variety of critical ecosystem functions are degraded by global warming, including habitat for fish and wildlife, drinking water storage, soils, and coastal barriers. *Id.* Carbon dioxide pollution is also responsible for increasing ocean acidification. This list represents only a subset of the social costs of carbon pollution from burning fossil

fuels extracted from our public lands. Nonetheless, “[l]ower emissions of heat-trapping gases and particles mean less future warming and less-severe impacts; higher emissions mean more warming and more severe impacts.” *Id.*

***BLM decision makers must consider the social cost of carbon from all proposed land management projects.***

The requirement to analyze the social cost of carbon is supported by the general requirements of the National Environmental Policy Act (“NEPA”) and specifically supported in federal case law. NEPA requires agencies to take a “hard look” at the consequences of proposed agency actions. 42 U.S.C. § 4321 *et seq.*; *Morris v. U.S. Nuclear Regulatory Commission*, 598 F.3d 677, 681 (10th Cir. 2010). Consequences that must be considered include direct, indirect, and cumulative consequences. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. A cumulative impact is the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. Analysis of site-specific impacts must take place at the lease stage and cannot merely be deferred until after receiving APDs to drill. *See New Mexico ex rel. Richardson v. Bureau of Land Management*, 565 F.3d 683, 717-18 (10th Cir. 2009); *Conner v. Burford*, 848 F.2d 1441 (9th Cir. 1988); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1227 (9th Cir. 1988). Any NEPA analysis of a fossil fuel development project that fails to use the government-wide protocol for assessing the costs to society of carbon emissions from the proposed action has failed to take the legally required “hard look.”

Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the Ninth Circuit Court of Appeals ordered the National Highway Traffic Safety Administration (“NHTSA”) to include a monetized assessment of carbon emissions reductions in an EA prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1203 (9th Cir. 2008). NHTSA had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. NHTSA’s EA had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits were monetized by the agency although also uncertain. *Id.* at 1202.

More recently, a federal court has done likewise for a proposed coal lease modification. *High Country Conservation Advocates v. U.S. Forest Service*, 2014 WL 2922751 (D. Colo. 2014), Slip Op. at 3, citing 40 C.F.R. § 1502.23. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *High Country*

*Conservation Advocates v. U.S. USFS*, ---F. Supp.2d---, 2014 WL 2922751 (D. Colo 2014), citing 40 C.F.R. § 1502.23. However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* at 3 (citations omitted). The quantification of the social cost of carbon was never prepared. BLM cannot rely on the stated benefits of the project in the RMP to justify project approval while wholly ignoring the costs to society that will accrue through climate change. This, the *High Country* court explained, was arbitrary and capricious. At 3. Any such approval would be based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* at 19-20.

***The social cost of carbon will be significant whenever fossil fuel leasing, or mining, or drilling is proposed.***

According to the U.S. Environmental Protection Agency (“EPA”), the social cost of carbon is “an estimate of the economic damages associated with a small increase” in emissions. Ex. 10, Social Cost of Carbon, U.S. Environmental Protection Agency. “This dollar figure also represents the value of damages avoided for a small emission reduction.” *Id.* Thus, it would be incorrect to assert that the social cost of carbon cannot be calculated for a project that represents a tiny fraction of global or even a tiny fraction of U.S. emissions. Estimates of the social cost of carbon are designed to do exactly that. In fact, the social cost of carbon is generally expressed in terms of the costs tolled by emitting or the benefits realized by avoiding a single ton of carbon dioxide emissions.

However, it is very likely that the social cost of carbon protocol actually underestimates the true damages exacted on society by carbon pollution. *Id.* citing the IPCC Fourth Assessment Report. In particular, damages related to social and political conflicts, weather variability, extreme weather, and declining growth rates are either ignored or underestimated. Ex. 11, Omitted Damages: What’s Missing from the Social Cost of Carbon, Peter Howard, the Cost of Carbon Project (March 13, 2014). In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published this year found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton. See Ex. 12, Moore, C.F. and B.D. Delvane, “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* (January 12, 2015) at 2. Thus, any application of the current social cost of carbon protocol is very likely a significant underestimate of the true cost of carbon pollution.

Acknowledging the known tendency to underestimate costs, the federal government has been using its cost-benefit assessment tool since February 2010. See Ex. 13, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866 - Interagency Working Group on Social Cost of Carbon, United States Government (May 2013, Revised July 2015). In the last several years, the Departments of Agriculture, Energy, Transportation, and Housing and Urban Development and the Environmental Protection Agency and National Highway Traffic Safety Administration have all utilized the Social Cost of Carbon Protocol in public decision making documents.

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated with potential increases of GHG emissions.” Ex. 14, EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011). The BLM has also utilized the social cost of carbon protocol in the context of oil and gas leasing. In recent Environmental Assessments for oil and gas leasing, the agency estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.” Ex. 15, BLM, “Environmental Assessment DOI-BLM-MT-C020-2014-0091-EA, Oil and Gas Lease Parcel, October 21, 2014 Sale” (May 19, 2014) at 76. In conducting its analysis, the BLM used a “3 percent average discount rate and year 2020 values,” presuming social costs of carbon to be \$46 per metric ton. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).” *Id.*

The U.S. Government Accountability Office reviewed the process employed to develop the federal government’s assessment of the social cost of carbon. Ex. 16, Regulatory Impact Analysis – Social Cost of Carbon Estimates (July 2014). The GAO found that the process employed to develop the 2013 social cost of carbon estimates “used consensus-based decision making,” “relied on existing academic literature and models,” and “took steps to disclose limitations and incorporate new information.” *Id.* In short, while the social cost of carbon protocol, like other economic models, provides only estimates and is subject to further updates as new information becomes available, the federal government’s social cost of carbon protocol is a legitimate tool for performing a thorough and honest assessment of both costs and benefits of proposed actions as required under NEPA.

EPA lists the current social costs of carbon in the following format:

**Social Cost of CO<sub>2</sub>, 2015-2050 a (in 2007 Dollars per metric ton CO<sub>2</sub>)**

Source: [Technical Support Document](#) (PDF, 21 pp, 1 MB): Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (May 2013, Revised July 2015)

| Year | Discount Rate and Statistic |            |              |                    |
|------|-----------------------------|------------|--------------|--------------------|
|      | 5% Average                  | 3% Average | 2.5% Average | 3% 95th percentile |
| 2015 | \$11                        | \$36       | \$56         | \$105              |
| 2020 | \$12                        | \$42       | \$62         | \$123              |
| 2025 | \$14                        | \$46       | \$68         | \$138              |
| 2030 | \$16                        | \$50       | \$73         | \$152              |
| 2035 | \$18                        | \$55       | \$78         | \$168              |
| 2040 | \$21                        | \$60       | \$84         | \$183              |
| 2045 | \$23                        | \$64       | \$89         | \$197              |
| 2050 | \$26                        | \$69       | \$95         | \$212              |

a The SC-CO<sub>2</sub> values are dollar-year and emissions-year specific.

Ex. 10 at 3.

As the table above makes clear, the social costs of carbon pollution are anything but trivial. For example, a project that released a mere 25,000 tons of carbon dioxide in 2025 would be responsible for costs to society, through global warming, of between \$375,000 and more than \$3.75 million for that year's emissions alone. And again, this is very likely an underestimate of true costs.

If the economy returns to fast-paced growth and global warming impacts are currently foreseen and properly estimated, the higher discount rates, 5%, and the lower social cost of carbon estimates will be most appropriate. If the economy grows long-term at slower rates and global warming impacts are currently foreseen and properly estimated, the higher social cost of carbon figures, the 2.5 % column, will be better estimates. A middle discount rate value, 3%, for mid-range growth estimates is also available. If, on the other hand, global warming impacts are greater or more costly than current mid-range estimates, the social cost of carbon would be better estimated by the 95<sup>th</sup> percentile figures. That means that the lowest social cost of carbon numbers are best-case scenarios for both the economy and global warming impacts. The highest numbers are for mid-range economic projections and close to worst-case estimates for global warming impacts.

A recently completed BLM APD EA provides an instructive example. *See* Ex. 17 -- Environmental Assessment for Anschutz State Federal APD's (March, 2016), DOI-BLM-CO-

F02-2016-0014 EA at 37. There, a small 12-well project was estimated to emit about two million tons of CO<sub>2</sub>e per year. If project emissions begin in 2020, those 12 wells will cost society an estimated \$92 million per year at mid-range estimates. By the end of the estimated 25-year life of the project, costs will have risen to an estimated \$152 million per year. That amounts to \$3.8 billion over the life of the 12-well project. If costs are at the upper end of economists' projections, the numbers rise to the range \$400 million per year, or a staggering \$10 billion dollars over the life of the project. Clearly, if such numbers were provided to decision makers and to the public, different choices might well be made about whether to lease public land for drilling.

### ***BLM's NEPA documents for the November 2016 Oil and Gas Lease Parcel Sale violates NEPA***

BLM fails to draw the necessary connection between the proposed project and increased climate impacts and costs. BLM improperly declines to assess the impacts of climate change, promising to assess them at some unknown time in the future. This violates NEPA's hard look doctrine. Court's have made clear that the leasing stage is an appropriate time to assess impacts that will not be mitigated by lease stipulations, as carbon emissions surely will not. This EA fails the hard look requirement. In addition, the project fails to take a hard look at climate impacts to society as contextualized in the social cost of carbon protocol.

This project is one small piece resulting in tremendous cumulative impacts across the Department of the Interior fossil fuel leasing programs. Fossil fuels development on public lands and coastal waters results in more than one and one-half billion tons of carbon dioxide emissions per year. Using 2015 social cost of carbon values, the costs to society of the federal fossil fuel leasing program is between \$18 and \$177 billion per year. This same level of emissions in 20 years would incur costs from \$20 billion to more than a quarter of a trillion dollars per year, depending on the growth of the economy and the intensity of global warming impacts at that time. These costs, of course, do not include costs from air quality issues like smog and mercury emissions, do not include lost opportunity costs from lost recreation, or costs from direct degradation of ecosystem services. Recall also, that it is very likely that these numbers represent an underestimate of the true costs to society from global warming.

These numbers, while shocking, do no more than reiterate what scientists have been telling us for years: extraction of fossil fuels are costing our society much more than they are providing in benefits. Of course numbers of such an alarming magnitude do not result from the approval of any single project. Instead, they represent the incessant accumulation of costs that result from BLM approving project after project while refusing to acknowledge that those projects have unspoken cumulative impacts on society, both individually and in the aggregate, that will continue to plague our country for many generations, in fact, for millenia. BLM must address the social costs of carbon that are likely to result from these projects.



## **BLM ignores the Department of the Interior's October 2015 Landscape-Scale Mitigation Policy, 600 DM 6**

The new Departmental Landscape-Scale Mitigation policy applies to BLM. 600 DM 6.2. Its purpose is to “avoid, minimize, and compensate for impacts to Department-managed resources.” 600 DM 6.1. The BLM is required to apply a “no net loss” policy to agency resources, including those impacted by oil and gas leasing and development. 600 DM 6.5. BLM is empowered to decline authorization of projects where mitigation and compensation cannot be achieved. 600 DM 6.6. Specifically, BLM is required to “[i]dentify and promote mitigation measures that help address the effects of climate change” and to consider “greenhouse gas emissions in design, analysis, and development of alternatives.” *Id.* These policies and principles should be employed “when developing and approving strategies and plans, reviewing projects, and issuing permits.” 600 DM 6.8.

BLM has not undertaken to implement any aspect of this policy in the project at hand.

### **The EA must analyze impacts from fracking wastewater, including the possibility of earthquakes produced by underground injection**

The EA largely ignores wastewater created by oil and gas extraction. This itself renders the EA inoperable. Despite BLM ignoring the issue however, it is well known that much fracking wastewater is injected into underground wells. That practice is known or suspected of causing earthquakes in Oklahoma, Texas, Ohio, Pennsylvania, California, and Canada and has been restricted for just that reason in some of those areas. BLM must, in a supplemental analysis, analyze the likelihood of such impacts before they occur and require mitigation before this project can proceed.

Saline, produced water from wells, when injected into deeper sedimentary formations, appears to lubricate active fault lines. Ex. 18, Oklahoma's recent earthquakes and saltwater disposal, *Science Advances* (June 18, 2015). In some areas with previously rare earthquake activity, rates have increased ten-fold. It appears that the likelihood of induced seismicity is directly related to the rate of injection. High-rate injection is associated with the increase in U.S. mid-continent seismicity, M. Weingarten, et al., *Science* (June 19, 2015) at <http://www.sciencemag.org/content/348/6241/1336>; see also Ex. 19, Potential Injection-Induced Seismicity Associated with Oil and Gas Development, *States First* (2015).

The EA does not attempt to analyze the degree or frequency of waste water injection. Likewise, no stipulations on such practices are included in the proposed leases. This possible impact must be studied and appropriate stipulations included to prevent these impacts.

- **Sage Grouse**

Parcels 032, 067, 152 are completely or partially within sage grouse Priority Habitat Management Areas (“PHMAs”) according to our maps. Yet BLM asserts that they are within General Habitat Management Areas (“GHMA”). EA at 31-32. According to BLM, these

parcels are within existing units and are surrounded by other leases. EA at 9. All restrictions and stipulations included in the Utah Greater Sage-grouse RMP Amendment must be attached to these parcels should they be offered at auction. Yet we remain concerned that sage grouse stipulations prescribed in BLM land-use plan amendments and revisions to protect greater sage grouse are scientifically unsound, legally invalid, and fail to grant an adequate level of protection to allow for the survival of greater sage grouse in the context of development on oil and gas leases, and therefore protest these parcels. Under BLM's greater sage grouse plan amendments and revisions, the agency made an explicit commitment to prioritize oil and gas leasing and development outside PHMAs (which include SFAs) and General Habitat Management Areas ("GHMAs"). Particularly relevant to this lease sale:

"Objective MR-1: Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of GRSG, priority will be given to development in non-habitat areas first and then in the least suitable habitat for GRSG." Utah Greater Sage-Grouse Approved RMP Amendment at 2-25.

To comply with this direction, BLM should require leaseholders to diligently explore for and develop all existing fluid mineral leases, prioritizing those outside sage grouse habitats, before any new leases are offered at auction inside designated sage grouse habitats. Thus, all sage grouse parcels in this lease sale should be removed from the auction.

We agree with BLM's recommendations to defer the offering of a number of parcels in the Lease EA, which fall entirely or partially within sage grouse PHMA habitats. It is a wise decision to defer the long-term commitment of mineral leases in areas that are sensitive sage grouse habitats. This is consistent with the Presidential Memorandum of November 6, 2015 titled "Mitigating Impacts on Natural Resources From Development and Encouraging Related Private Investment," which directs federal agencies "to avoid and then minimize harmful effects to land, water, wildlife, and other ecological resources (natural resources) caused by land- or water-disturbing activities..." 80 Fed. Reg. 68743, 68744. This Presidential Memorandum also directs agencies to identify areas "where natural resource values are irreplaceable"; sage grouse habitats clearly fall into this category, as there is no demonstrated possibility of creating or restoring sage grouse habitats once they have been destroyed due to the fragility and long recovery times of the sagebrush habitats upon which the grouse depend.

Parcels 032, 067, 152 fall entirely or partially within sage grouse Priority Habitat Management Areas based on our GIS analyses, and fall entirely or partially within GHMAs under BLM's analysis, yet they are not earmarked for complete (or in some cases, even partial) deferral. These parcels should be deferred from the lease auction to protect irreplaceable sage grouse habitats.

We request that all parcels listed above be deferred from the lease sale. BLM should do its best to keep largely unleased areas of public land in designated sage grouse habitats unleased, regardless of mineral ownership patterns. Since 1965, grouse populations have declined significantly, and these declines continue in recent years, with the risk of sage grouse extirpation a sizeable threat over large portions of the species' range.<sup>3</sup> These declines are attributable at least in part to habitat loss due to mining and energy development and associated roads, and to habitat fragmentation due to roads and well fields. Oil and gas development poses perhaps the greatest threat to sage grouse viability in the region. The area within 5.3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. In a study near Pinedale, Wyoming, sage grouse from disturbed leks where gas development occurred within 3 km of the lek site showed lower nesting rates (and hence lower reproduction), traveled farther to nest, and selected greater shrub cover than grouse from undisturbed leks.<sup>4</sup> According to this study, impacts of oil and gas development to sage grouse include (1) direct habitat loss from new construction, (2) increased human activity and pumping noise causing displacement, (3) increased legal and illegal harvest, (4) direct mortality associated with reserve pits, and (5) lowered water tables resulting in herbaceous vegetation loss. These impacts have not been thoroughly evaluated with full NEPA analysis.

All portions of these parcels falling within GHMAs should be deferred, in order to implement the Mitigation Policy outlined earlier in these comments. The scientific information outlined elsewhere in these comments applies equally to GHMA, and the potential for significant impacts to sage grouse lek populations from oil and gas development springing from this lease sale is just as legally required in GHMA as in PHMA or SFA areas. In particular, the 0.25-mile 'No Surface Occupancy' buffers and 2-mile Timing Limitation Stipulations prescribed for PHMAs under BLM plans have explicitly been tested and found to result in significant negative impacts to sage grouse populations in the context of oil and gas development.<sup>5</sup> According to Apa et al. (2008), "Buffer sizes of 0.25 mi., 0.5 mi., 0.6 mi., and 1.0 mi. result in estimated lek persistence of 5%, 11%, 14%, and 30%."<sup>6</sup> BLM's own NEPA analysis for a recent Miles City Field Office oil and gas leasing EA<sup>7</sup> provides a thorough synopsis:

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<sup>3</sup> Garton, E.O., A.G. Wells, J.A. Baumgardt, and J.W. Connelly. 2015. Greater sage-grouse population dynamics and probability of persistence. Final Report to Pew Charitable Trusts, 90 pp. Online at <http://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf>.

<sup>4</sup> Lyon, A.G. 2000. The potential effects of natural gas development on sage-grouse (*Centrocercus urophasianus*) near Pinedale, Wyoming. M.S. Thesis, Univ. of Wyoming, 121 pp.

<sup>5</sup> Holloran 2005.

<sup>6</sup> Apa, T., J. Bohne, T. Christiansen, J. Herbert, B. James, R. Northrup, D. Olsen, A. Robinson, P. Schnurr, T.O. Smith, and B. Walker. 2008. Using the Best Available Science to Coordinate Conservation Actions that Benefit Greater Sage-grouse Across States Affected by Oil & Gas Development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming). Unpublished multi-state report of game and fish agencies, 10 pp. Online at [http://www.ourpubliclands.org/files/upload/ti-State\\_ScienceGroupDocument\\_FINAL\\_01-28-08.pdf](http://www.ourpubliclands.org/files/upload/ti-State_ScienceGroupDocument_FINAL_01-28-08.pdf).

<sup>7</sup> Miles City October 2014 Oil and Gas Leasing EA, Environmental Assessment DOI-BLM-MT-C020-2014-0091-EA, May 19, 2014 at 60.

Sage grouse are offered species specific protections through a stipulation. Under Alternative B, ¼ mile NSO buffers and 2 mile timing buffers would apply where relevant. Based on research, these stipulations for sage grouse are considered ineffective to ensure that sage grouse can persist within fully developed areas. With regard to existing restrictive stipulations applied by the BLM, (Walker et al. 2007a) research has demonstrated that the 0.4-km (0.25 miles) NSO lease stipulation is insufficient to conserve breeding sage-grouse populations in fully developed gas fields because this buffer distance leaves 98 percent of the landscape within 3.2 km (2 miles) open to full-scale development. Full-field development of 98 percent of the landscape within 3.2 km (2 miles) of leks in a typical landscape in the Powder River Basin reduced the average probability of lek persistence from 87 percent to 5 percent (Walker et al. 2007a).

According to Walker et al. (2007),<sup>8</sup>

Current lease stipulations that prohibit development within 0.4 km of sage-grouse leks on federal lands are inadequate to ensure lek persistence and may result in impacts to breeding populations over larger areas. Seasonal restrictions on drilling and construction do not address impacts caused by loss of sagebrush and incursion of infrastructure that can affect populations over long periods of time.

In its 2010 Final Rule<sup>9</sup> finding the greater sage grouse “warranted, but precluded” for listing under the Endangered Species Act, the U.S. Fish and Wildlife Service made the following observations based on the best available scientific and commercial information:

The rationale for using a 0.4-km (0.25-mi) buffer as the basic unit for active lek protection is not clear, as there is no support in published literature for this distance affording any measure of protection.... this distance appears to be an artifact from the 1960s attempt to initiate planning guidelines for sagebrush management and is not scientifically based (Roberts 1991).

In light of the overwhelming scientific evidence that the application of 0.25-mile NSO buffers and 2-mile timing stipulations are grossly inadequate to conserve sage grouse and their habitats in GHMA (or indeed elsewhere), BLM cannot rely on such current, scientifically unsound and invalid stipulations for the issuance of oil and gas leases in GHMA.

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<sup>8</sup> Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71(8):2644-2654.

<sup>9</sup> 75 Fed. Reg. 13978, March 23, 2010.

Many parcels are located within 5.3 miles of one or more active sage grouse leks. The lands within 5.3 miles of active leks are typically used for nesting,<sup>10</sup> a sensitive life history period when sage grouse are sensitive to disturbance from oil and gas drilling and production activities. The current standard sage grouse stipulations that apply outside PHMAs are biologically inadequate, and their effectiveness has not been established by BLM. Indeed, scientific studies demonstrate that these mitigation measures fail to maintain sage grouse populations in the face of full-field development, and significant impacts in terms of displacement of sage grouse from otherwise suitable habitat as well as significant population declines have been documented.<sup>11</sup> BLM should not issue these sage grouse parcels unless a rigorous set of stipulations, far stronger than those provided in the EA (such as NSO stipulations), are applied to the parcels. This should include at minimum 4-mile No Surface Occupancy stipulations around active leks, in accordance with the recommendations of BLM's own subject-matter experts.<sup>12</sup> If these stipulations are implemented together with even stronger measures for PHMAs and Connectivity Areas, the BLM could make a credible case that impacts from leasing would not result in significant impacts.

Outside PHMAs, current sage grouse lease stipulations provide an NSO stipulation of ¼ mile around active sage grouse leks. This is known to be an inadequate amount of protection for the lekking grouse during the breeding period, nevermind for hens nesting on lands surrounding the lek. Studies have shown that the majority of hens nest within 3 miles of a lek, and that a 5.3-mile buffer would encompass almost all nesting birds in some cases. For Core Areas, the most scientifically supportable metric for NSO buffers would be 2 miles from the lek to protect breeding activities (after Holloran 2005, finding impacts from post-drilling production extend 1.9 miles from the wellsite)<sup>4</sup> and 5.3 miles to protect nesting birds, with the understanding that the impacts of drilling and production activity would extend into the NSO buffer area from wells arrayed along its edge.

Because leks sites are used traditionally year after year and represent selection for optimal breeding and nesting habitat, it is crucially important to protect the area surrounding lek sites from impacts. In his University of Wyoming dissertation on the impacts of oil and gas development on sage grouse, Matthew Holloran stated, "current development stipulations are inadequate to maintain greater sage grouse breeding populations in natural gas

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<sup>10</sup> Holloran, M. J. and S. H. Anderson. 2005. Spatial distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats. *Condor* 107(4): 742-752.

<sup>11</sup> Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71(8):2644-2654; *see also* Apa, T., J. Bohné, T. Christiansen, J. Herbert, B. James, R. Northrup, D. Olsen, A. Robinson, P. Schnurr, T.O. Smith, and B. Walker. 2008. Using the Best Available Science to Coordinate Conservation Actions that Benefit Greater Sage-grouse Across States Affected by Oil & Gas Development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming). Unpublished multi-state report of game and fish agencies, 10 pp. Online at [http://www.ourpubliclands.org/files/upload/ti-State\\_ScienceGroupDocument\\_FINAL\\_01-28-08.pdf](http://www.ourpubliclands.org/files/upload/ti-State_ScienceGroupDocument_FINAL_01-28-08.pdf).

<sup>12</sup> Sage-grouse National Technical Team. 2011. A Report on National Greater Sage-grouse Conservation Measures. Available at [www.blm.gov/pgdata/etc/medialib/blm/co/programs/wildlife.Par.73607.File.dat/GrSG%20Tech%20Team%20Report.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/programs/wildlife.Par.73607.File.dat/GrSG%20Tech%20Team%20Report.pdf).

fields.”<sup>13</sup> (Notably, these exact stipulations are being applied by BLM in this lease sale for GHMA sage grouse habitat parcels). The area within 5.3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. At minimum, the prohibition of surface disturbance within 4 miles of a sage grouse lek is the absolute minimum starting point for sage grouse conservation.

Other important findings on the negative impacts of oil and gas operations on sage grouse and their implications for the species are contained in three studies recently accepted for publication.<sup>14</sup> Sage grouse mitigation measures have been demonstrated to be ineffective at maintaining this species at pre-development levels in the face of oil and gas development by Holloran (2005) and Naugle et al. (2006). This latter study found an 85% decline of sage grouse populations in the Powder River Basin of northeastern Wyoming since the onset of coalbed methane development there. BLM has repeatedly failed to provide any analysis, through field experiments or literature reviews, examining the effectiveness of the standard quarter-mile buffers where disturbance would be “avoided.” There is substantial scientific information in recent studies describing the impacts of oil and gas development to sage grouse. It is incumbent upon BLM to consider the most recent scientific evidence regarding the status of this species and to develop mitigation measures which will ensure the species is not moved toward listing under the Endangered Species Act. It is clear from the scientific evidence that the current protections are inadequate and are contributing to the further decline of the bird’s populations. This information constitutes significant new information that requires amendment of the Resource Management Plans before additional oil and gas leasing can move forward.

State agency biologists have reached a consensus that the Timing Limitation Stipulations proposed for sage grouse in this lease sale are ineffective in the face of standard oil and gas development practices.<sup>15</sup> These stipulations have likewise been condemned as inadequate by the U.S. Fish and Wildlife Service and renowned sage grouse expert Dr. Clait Braun. The BLM itself has been forced to admit that “New information from monitoring and studies indicate that current RMP decisions/actions may move the species toward listing...conflicts with current BLM decision to implement BLM’s sensitive species policy” and “New information and science indicate 1985 RMP Decisions, as amended, may not be adequate

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<sup>13</sup> M. Holloran. Dec. 2005. Greater Sage-Grouse Population Response to Natural Gas Field Development in Western Wyoming, at 57.

<sup>14</sup> Doherty, K.E., D.E. Naugle, B.L. Walker, and J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. *Journal of Wildlife Management* 72:187-195.

Walker, B.L., D.E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71:2644-2654.

Walker, B.L., D.E. Naugle, K.E. Doherty, and T.E. Cornish. 2007. West Nile virus and greater sage-grouse: estimating infection rate in a wild bird population. *Avian Diseases* 51:In Press.

<sup>15</sup> Apa, T., J. Bohne, T. Christiansen, J. Herbert, B. James, R. Northrup, D. Olsen, A. Robinson, P. Schnurr, T.O. Smith, and B. Walker. 2008. Using the Best Available Science to Coordinate Conservation Actions that Benefit Greater Sage-grouse Across States Affected by Oil & Gas Development in Management Zones I-II (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming). Unpublished multi-state report of game and fish agencies, 10 pp. Online at [http://www.ourpubliclands.org/files/upload/ti-State\\_ScienceGroupDocument\\_FINAL\\_01-28-08.pdf](http://www.ourpubliclands.org/files/upload/ti-State_ScienceGroupDocument_FINAL_01-28-08.pdf).



for sage grouse.”<sup>16</sup> Continued application of stipulations known to be ineffective in the face of strong evidence that they do not work, and continuing to drive the sage grouse toward ESA listing in violation of BLM Sensitive Species policy, is arbitrary and capricious and an abuse of discretion under the Administrative Procedures Act.

The restrictions contained in the recent Wyoming Greater Sage-Grouse Resource Management Plan Amendments and revisions are scientifically unsound and ineffective. Within Core Areas, the IM allows surface disturbing activity and surface occupancy just six tenths (0.6) of a mile from occupied sage-grouse leks, a far cry from the science-based 4-mile buffer recommended by the BLM’s own National Technical Team, and inconsistent with the findings of Manier et al. (2014), who described the range of appropriate lek buffers as 3.1 to 5 miles.<sup>17</sup> By acreage, a 0.6-mile buffer encompasses less than 4% of the nesting habitat contained within the 4-mile buffer recommended by agency experts, and therefore does essentially nothing to protect sensitive nesting habitats. Even less protective, restrictions outside Core or Connectivity Areas allow surface disturbing activities and surface occupancy as close as one quarter (0.25) of a mile from leks.<sup>18</sup> BLM has too great an abundance of data to the contrary to continue with scientifically unsound stipulations. BLM should apply the recommendations of the National Technical Team instead, and in the meantime defer leasing until these recommendations can be formally adopted through the plan amendment/revision process.

The vague stipulations included in BLM’s Notice of Competitive Oil and Gas Lease Sale for particular parcels do little to clarify to the interested public or potential lessees what restrictions might actually apply to protect sage grouse populations. For example, for some parcels, BLM imposes a Timing Limitation Stipulation and a Controlled Surface Use Stipulation. Such acceptable plans for mitigation of anticipated impacts must be prepared prior to issuing the lease in order to give the public full opportunity to comment, and to abide by the Department of Interior’s stated new policy to complete site-specific environmental review at the leasing stage, not the APD stage. Without site-specific review and opportunity for comment, neither the public nor potential lessees can clearly gauge how restrictive or lax “acceptable plans for mitigation” might be, and whether they comply with federal laws, regulations, and agency guidelines and policies. Thus, absent such review, the leases should not issue at all.

BLM has the scientific information needed to recognize that any use of these parcels will result in further population declines, propelling the sage grouse toward a listing under the Endangered Species Act, a ruling that is slated to be revisited in 2020. Again, it is in all interested parties favor (conservation groups, potential lessees, BLM and other federal agencies) for BLM to determine specific “modifications” prior to issuing leases, such as NSO

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<sup>16</sup> Sage grouse plan amendment land user information meeting PowerPoint, available online at <http://www.blm.gov/pgdata/etc/medialib/blm/wy/information/NEPA/bfodocs/sagegrouse.Par.94571.File.dat/May28InfoMtg.pdf>.

<sup>17</sup> Manier, D.J., Bowen, Z.H., Brooks, M.L., Casazza, M.L., Coates, P.S., Deibert, P.A., Hanser, S.E., and Johnson, D.H. 2014. Conservation buffer distance estimates for Greater Sage-Grouse—A review: U.S. Geological Survey Open-File Report 2014–1239, 14 p., <http://dx.doi.org/10.3133/ofr20141239>.

<sup>18</sup> *Id.*

restrictions. If the BLM fails to do so through site-specific environmental review before the APD stage, the agency will not adhere to the directive of Secretary Salazar and the Department of Interior's announced leasing reforms.

No parcels which contain sage grouse leks, nesting habitat, breeding habitat, wintering habitat and brood-rearing habitat should be offered at auction. We request that these parcels be withdrawn from the lease sale. Failing withdrawal of the parcels, parcel-by-parcel NEPA analysis should occur (we have seen no evidence of this in the High Plains, High Desert, and Wind River-Bighorn Basin Leasing EAs in question), and 4-mile NSO buffer stipulations must be placed on all lease parcels with sage grouse leks. It is critical that these stipulations be attached at the leasing stage, when BLM has the maximum authority to restrict activities on these crucial habitats for the protection of the species, and that no exceptions to the stipulations be granted. BLM's failure to do so will permit oil and gas development activities which will contribute to declining sage grouse populations and ultimately listing by the U.S. Fish and Wildlife Service as a threatened or endangered species, in violation of BLM's duty to take all actions necessary to prevent listing under its Sensitive Species Manual.

We remain concerned that development activities on the sage grouse parcels noted above will result in significant impacts to sage grouse occupying these parcels and/or the habitats nearby, and the BLM's programmatic NEPA underlying this lease sale does not adequately address these significant impacts.

The parcels protested in this section are entirely or partially within PHMAs and GHMAs designated for sage grouse protection. In addition to the concerns outlined above, these parcels cannot be legally offered for sale because the Resource Management Plan and EIS underlying them contain significant legal deficiencies. In the past, BLM has noted that the deferral of sage grouse PHMA (sometimes termed "Core Area" in Wyoming parcels is largely responsible for overall reductions in PHMA acreage leased and therefore reduced threats to sage grouse:

The relatively subdued pace of new leasing in Core Areas is the direct result of the application of the BLM's sage-grouse leasing screen, whereby many parcels in recent sales have been deferred from sale until the sage-grouse RMP amendments and ongoing plan revisions are completed.

Wind River – Bighorn Basin [WY] August 2015 Lease EA at 4-44, and see graph on same page. The cessation of deferral for PHMAs in this lease auction will reverse this progress.

Since the greater sage grouse is a BLM Sensitive Species and remains an open possibility for listing under the Endangered Species Act in 2020, the leasing of these lands under biologically inadequate stipulations is a violation of BLM Sensitive Species Policy, and constitutes undue degradation of sage grouse habitats and populations. Because alternate stipulations that are indeed biologically sufficient are available, and their implementation would avert significant impacts to sage grouse populations, the impacts incurred as a result of developing the leases in question are completely unnecessary.



In Wyoming, Holloran (2005) examined thresholds of distance from oil and gas wells and access roads (accessing 5 or more wellpads), and found that significant impacts to sage grouse lek populations occurred when a well or access road was sited within 1.9 miles of a sage grouse lek, irrespective of whether the intrusion was visible from the lek itself.<sup>19</sup> Manier et al. (2014) reviewed the available scientific literature and determined that buffers in the range of 3.1 to 5 miles from the lek were appropriate based on the best available science.<sup>20</sup> The agency's own experts conducted an earlier review of the best available science (National Technical Team 2011) and recommended no future leasing in sage grouse Priority Habitats, and applying a 4-mile No Surface Occupancy buffer around leks for previously existing leases.

The recently adopted Greater Sage-Grouse RMP Amendments also prescribe the use of a Disturbance Density Calculation Tool (DDCT) or equivalent method (often called "project analysis area") to arrive at the density of wellsites as well as the overall disturbance percentage. Because the DDCT area is always much larger than the project area when sage grouse leks are present within 4 miles of the project area boundary, this method always underestimates the density of disturbances in cases where sage grouse breeding habitat is potentially affected by development. This allows a density of development inside the project area that far exceeds scientifically determined thresholds at which significant sage grouse population declines occur. No scientific study has ever tested what would be the thresholds of disturbance causing significant impacts to sage grouse populations using a DDCT. The National Technical Team (2011), by contrast, recommends that well and disturbance densities be calculated on a square-mile-section basis, not using a larger area.

Current stipulations to protect sage grouse from oil and gas-related noise are inadequate. Noise can mask the breeding vocalizations of sage grouse (Blickley and Patricelli 2012),<sup>21</sup> displaces grouse from leks (Blickley et al. 2012a),<sup>22</sup> and causes stress to the birds that remain (Blickley et al. 2012b).<sup>23</sup> According to Blickley et al. (2010),

The cumulative impacts of noise on individuals can manifest at the population level in various ways that can potentially range from population declines up to regional extinction. If species already threatened or endangered due to habitat loss avoid noisy areas and abandon otherwise

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<sup>19</sup> M. Holloran. Dec. 2005. Greater Sage-Grouse Population Response to Natural Gas Field Development in Western Wyoming, at 57.

<sup>20</sup> Manier, D.J., Bowen, Z.H., Brooks, M.L., Casazza, M.L., Coates, P.S., Deibert, P.A., Hanser, S.E., and Johnson, D.H. 2014. Conservation buffer distance estimates for Greater Sage-Grouse—A review: U.S. Geological Survey Open-File Report 2014–1239, 14 p., <http://dx.doi.org/10.3133/ofr20141239>.

<sup>21</sup> Blickley, J.L., and G.L. Patricelli. 2012. Potential acoustic masking of greater sage-grouse (*Centrocercus urophasianus*) display components by chronic industrial noise. *Ornith. Monogr.* 74: 23-35.

<sup>22</sup> Blickley, J.L., D. Blackwood, and G.L. Patricelli. 2012a. Experimental Evidence for the Effects of Chronic Anthropogenic Noise on Abundance of Greater Sage-Grouse at Leks. *Conserv. Biol.* 26:461-471.

<sup>23</sup> Blickley J.L., Word K.R., Krakauer A.H., Phillips J.L., Sells S.N., et al. 2012b. Experimental Chronic Noise Is Related to Elevated Fecal Corticosteroid Metabolites in Lekking Male Greater Sage-Grouse (*Centrocercus urophasianus*). *PLoS ONE* 7(11): e50462. doi:10.1371/journal.pone.0050462.

suitable habitat because of a particular sensitivity to noise, their status becomes even more critical.

Noise must be limited to a maximum of 10 dBA above the ambient natural noise level after the recommendations of Patricelli et al. (2012); the ambient noise level in central Wyoming was found to be 22 dBA (Patricelli et al. 2012) and in western Wyoming it was found to be 15 dBA (Ambrose and Florian 2014, Ambrose 2015; Ambrose et al. 2015).<sup>24</sup> Exhibit 20 provides a review of the relevant literature on noise including analysis that indicates sage grouse lek population declines once noise levels exceed the 25 dBA level. With this in mind, ambient noise levels should be defined as 15 dBA and allowable cumulative noise should be limited to 25 dBA in occupied breeding, nesting, brood-rearing, and wintering habitats, which equates to 10 dBA above the scientifically-derived ambient threshold.

In addition, it is critically important for BLM to identify and protect winter concentration areas. *See* Exhibit 21. Oil and gas development has known impacts on sage grouse (Doherty et al. 2008).<sup>25</sup> Thus far, the location of these habitats remains largely undetermined. These lands should be closed to fluid mineral leasing, with Conditions of Approval applying NSO stipulations inside and within 2 miles of these areas. The proposal to simply apply timing stipulations to these areas is insufficient because it allows construction of wellpads and roads known to be deleterious to wintering sage grouse inside these key habitats as long as construction/drilling occurs outside the winter season, and further allows production-related activities throughout winter. Thus, the sage grouse may return to their winter habitats to find an industrialized, fragmented habitat that no longer has any habitat function due to the birds' avoidance of such areas.

## Conclusion

Thank you for the opportunity to provide comments on this project. For the reasons given above, BLM should withdraw its EA and either supplement it or forgo leasing altogether.

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<sup>24</sup> Ambrose, S. 2015. Review of Greens Hollow Sound Study by Tetra Tech (2008), and Summary of Sound Level Measurements at Wildcat Knolls Lek, March 29-31, 2015. Unpublished report, 11 pp.; Ambrose, S., and C. Florian. 2014. Sound levels at greater sage-grouse leks, Pinedale Anticline Project Area, Wyoming, April 2013. Unpublished report prepared for the Wyoming Game and Fish Department, 133 pp. Available online at <http://www.wy.blm.gov/jio-papo/papo/wildlife/reports/sage-grouse/2013GSGacoustic-rpt.pdf>; Ambrose, S., C. Florian, and J. MacDonald. 2014. Sound levels at greater sage-grouse leks in the Pinedale Anticline Project Area, WY, April 2013-2014. Unpublished report prepared for the Wyoming Game and Fish Department, 79 pp.

<sup>25</sup> Doherty, K.E., D.E. Naugle, B.L. Walker, and J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. *J. Wildl. Manage.* 72:187-195.

It is now clear that the extraction of fossil fuels from public lands is inconsistent with a livable world in the future and the continued existence of sage grouse. The sooner BLM transitions away from this activity, the better it will be for the land it manages and for the American people.

Sincerely,

/s/

Timothy J. Ream